

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions and listings of claims in the application:

1-84. (Canceled)

85. (Currently Amended) A method of transferring nucleic acids into one or more striated muscles *in vivo* comprising: contacting *in vivo* at least one striated muscle cell with at least one nucleic acid, and electrically stimulating said at least one striated muscle cell with at least one unipolar pulse of an electric field intensity ranging from 1 to 800 V/cm and wherein said electric stimulation is greater than 10 milliseconds in duration ~~4 to 400 V/cm~~.

86. (Previously Presented) The method according to claim 118, wherein said angiogenic factor is chosen from VEGF, FGF, angiopoietin 1, angiopoietin 2, and endothelin.

87. (Previously Presented) The method according to claim 86, wherein said angiogenic factor is VEGF.

88. (Previously Presented) The method according to claim 86, wherein said angiogenic factor is FGF.

89. (Previously Presented) The method according to claim 88, wherein said FGF is FGF 1.

90. (Canceled)

91. (Previously Presented) The method according to claim 85, wherein said at least one striated muscle cell is a skeletal muscle cell.

92-94. (Canceled)

95. (Previously Presented) The method according to claim 85, wherein said at least one nucleic acid is injected by a systemic route.

96. (Previously Presented) The method according to claim 85, wherein said at least one nucleic acid is injected by an intra-arterial or intravenous route.

97. (Canceled).

98. (Currently Amended) The method according to claim 85, wherein said electric field intensity ranges from 1 to 200 V/cm ~~4 to 200 V/cm~~.

99. (Previously Presented) The method according to claim 98, wherein said electric field intensity ranges from 100 to 200 V/cm.

100. (Canceled)

101. (Previously Presented) The method according to claim 85, wherein said electrical stimulation comprises from 1 to 100,000 unipolar pulses.

102. (Previously Presented) The method according to claim 85, wherein said at least one unipolar pulse is chosen from square wave pulses and exponentially decreasing pulses.

103. (Canceled)

104. (Previously Presented) The method according to claim 85, wherein said at least one nucleic acid encodes at least one blood-clotting factor.

105. (Previously Presented) The method according to claim 104, wherein said blood-clotting factor is chosen from factor VII, factor VIII, and factor IX.

106. (Previously Presented) The method according to claim 105, wherein said blood-clotting factor is factor IX.

107. (Previously Presented) The method according to claim 85, wherein said at least one nucleic acid encodes at least one neurotrophic factor.

108. (Previously Presented) The method according to claim 107, wherein said neurotrophic factor is chosen from NGF, BDNF, NT3, NT4/5, and NT6.

109. (Previously Presented) The method according to claim 85, wherein said at least one nucleic acid encodes at least one hematopoietic factor.

110. (Previously Presented) The method according to claim 109, where said at least one hematopoietic factor is chosen from erythropoietin, GM-CSF, M-CSF, and LIF.

111. (Previously Presented) The method according to claim 85, wherein said at least one nucleic acid encodes human factor IX.

112. (Previously Presented) The method according to claim 85, wherein said at least one nucleic acid encodes SeAP.

113. (Previously Presented) The method according to claim 85, wherein said at least one nucleic acid encodes EPO.

114. (Previously Presented) The method according to claim 85, wherein said at least one nucleic acid encodes VEGF.

115. (Previously Presented) The method according to claim 85, wherein said at least one nucleic acid encodes FGF1.

116. (Previously Presented) The method according to claim 85, wherein said at least one nucleic acid encodes NT3.

117. (Previously Presented) The method according to claim 85, wherein said at least one nucleic acid encodes human growth hormone.

118. (Previously Presented) The method of claim 85, wherein said at least one nucleic acid encodes at least one angiogenic factor.

119. (Previously Presented) The method of claim 85, wherein the electric field intensity ranges from 30 to 300 V/cm.

120. (Previously Presented) The method of claim 85, wherein contacting *in vivo* at least one striated muscle cell with at least one nucleic acid precedes electrically stimulating said at least one striated muscle cell with at least one unipolar pulse of an electric field intensity ranging from ~~4 to 400~~ 1 to 800 V/cm.

121. (New) The method of claim 85, wherein the electric field intensity ranges from 1 to 400 V/cm.